

EMPIRE CONTAINER
36970 Etc.

NEWCASTLE-ON-TYNE

C. 101471

19 AUG 1943

Index. No. 37364
(For London Office only).

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name EMPIRE FLAG	Official Number 169169	Nationality and Port of Registry British Newcastle	Gross Tonnage 7024.48	Date of Build 1943	Port of Survey NEWCASTLE-ON-TYNE
Moulded Dimensions: Length 425.94 Breadth 56.0 Depth 34.64 <i>in Q of rounded stern</i>					Date of Survey Building
Moulded displacement at moulded draught = 85 per cent. of moulded depth 14118 tons					Surveyor's Signature R. Althorn
Coefficient of fineness for use with Tables .485					Particulars of Classification +100 A.1 with freeboards (contemplated).

Depth for Freeboard (D).		Depth correction.		Round of Beam correction.	
Moulded depth	34.64	(a) Where D is greater than Table depth (D - Table depth) R = (37.72 - 28.4) 3 = + 24.96		Moulded Breadth (B)	56.0
Stringer plate	.65 <i>12</i>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = 9.32		Standard Round of Beam = $\frac{B \times 12}{50}$	13.44
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$		If restricted by superstructures		Ship's Round of Beam	14
Depth for Freeboard (D) =	34.72			Difference	.56
				Restricted to	
				Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right)$.56 <i>4 x 9183 = -13</i>

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed						Standard Height of Superstructure 7.5
" overhang						" " R.Q.D.
R.Q.D. enclosed						Deduction for complete superstructure 42
" overhang						Percentage covered $\frac{S}{L} =$ 8.57
Bridge enclosed						" " $\frac{S_1}{L} =$
" overhang aft						" " $\frac{E}{L} =$ 7.54
" overhang forward						Percentage from Table, Line A. 3.77
F'cle enclosed	35.67	35.67	6.75	6.75/7.5	32.10	(corrected for absence of forecastle (if required))
" overhang						Percentage from Table, Line B.
Trunk aft						(corrected for absence of forecastle (if required))
" forward						Interpolation for bridge less than 2L (if required)
Tonnage opening aft						Deduction = 42 x .0377 = -1.58
" " forward						
Total	35.67	35.67			32.10	

SHEER CORRECTION.

Sheer parallel to base line from frame 30 to 129.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	32.59	1		32.59	32.25	32.25	1		32.25	Mean actual sheer aft = Deficient
$\frac{1}{4}$ L from A.P.	23.46	4		93.60	-	-	4		-	Mean actual sheer forward = Deficient
$\frac{2}{8}$ L	5.785	2		11.57	-	-	2		-	Mean standard sheer forward
Amidships	-	4		-	-	-	4		-	Length of enclosed superstructure forward of amidships = None
$\frac{2}{8}$ L from F.P.	11.57	2		23.14	-	-	2		-	" " aft of " =
$\frac{1}{4}$ L	46.82	4		187.28	6.375	6.375	4		25.5	
F.P.	105.189	1		105.189	81.00	81.00	1		81.0	
Total				473.28					138.75	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{334.538 (75-.049)}{18 \times 4072} = +13.12$

If limited on account of midship superstructure.

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **37.72** Ft.
Summer freeboard = **11.08**
Moulded draught (d) = **26.64**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **6.66**
Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta =$ **13968** tons
Tons per inch immersion at summer load water line
 $T =$ **48.98** tons

Deduction = $\frac{\Delta}{40T}$ inches

$\frac{13968}{40 \times 48.98} = 7$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{7884.64}{136} = 1.465/1.38$

	+	-	
Depth Correction	27.96		
Deduction for superstructures		1.58	
Sheer correction	13.14		
Round of Beam correction		.13	
Correction for Thickness of Deck amidships			
Other corrections, scantlings, etc.	6.13		
Summer Freeboard =	47.23	1.71	45.52

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:

Tropical Fresh Water Line above Centre of Disc	13.4
Fresh Water Line	7.36
Tropical Line	6.36
Winter Line below	6.36
Winter North Atlantic Line	

Tropical Fresh Water Freeboard	9-11.4
Fresh Water	10-6
Tropical	10-6.36
Winter	11-7.36
Winter North Atlantic	

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A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.

<u>Extreme Draft</u>	<u>Extreme Displacement</u>	<u>Tons per inch</u>
26'-0	13524 tons	48.40.
24'-0	14116 "	49.04
28'-0	14704 "	49.44.

Bottom of keel below moulded base line $1\frac{1}{2}$ "

Trade of ship

Ocean going cargo steamer

Names of sister ships

Sister to same builder No 3 "Empire Farmer" built for Admiralty to suit. Reping. Cargo Steamer.

Builder's name and yard number

Sir W.G. Armstrong, Whitworth & Co (Shipbuilders) Ltd. No. 4.

Owners

Ministry of War Transport.

Fee £

To be charged with
first entry fee.



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